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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,874	11/08/2006	Syuichi Matsui	2006_1573A	4402
513 7590 03/12/2010 WENDEROTH, LIND & PONACK, L.L.P. 1030 15th Street, N.W., Suite 400 East Washington, DC 20005-1503				
EXAMINER				
WU, SHEAN CHIU				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
03/12/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ddalecki@wenderoth.com  
coa@wenderoth.com

# Office Action Summary

**Application No.**

10/593,874

**Applicant(s)**

MATSUI ET AL.

**Examiner**

Shean C. Wu

**Art Unit**

1795

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 January 2010 and 03 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22, 24, 27, 30-44 and 46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 36-44 and 46 is/are rejected.
- 7) ☒ Claim(s) 3-22, 24, 27 and 30-35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Proficiency's Patent Drawing Review (PTO-544)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

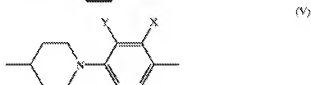
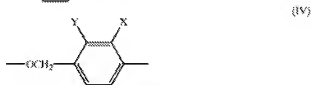
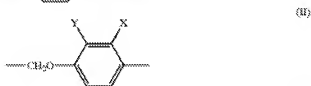
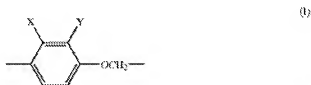
3. Claims 1-2, 36-44 and 46 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tamura et al. (US 6,576,303).

The reference discloses that a novel liquid crystal compound having a negative and absolutely large value of dielectric anisotropy, being excellent in compatibility with other liquid crystalline compounds at a low temperature and being stable chemically and physically, as well as a liquid crystal composition comprising this compound, and a liquid crystal display device comprising this liquid crystal composition are provided, said compound is expressed by the general formula (1):

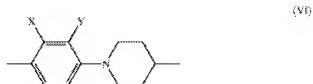
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wherein  $A^1$ ,  $A^2$ ,  $A^3$  and  $A^4$  each independently represent a single bond, 1,4-cyclohexylene, 1,4-phenylene which may be substituted with a fluorine atom(s), dioxane-2,5-diyl, pyrimidine-2,5-diyl, piperidine-1,4-diyl, pyridine-2,5-diyl which may be substituted with a fluorine atom(s) or 1-sila-1,4-cyclohexylene; Z represents a group selected from divalent groups expressed by partial structural formulas (I) to (VI);

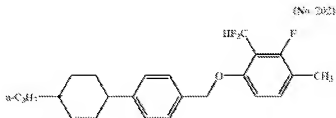


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wherein X represents a hydrogen atom or a fluorine atom, and Y represents difluoromethyl group, difluoromethoxy group, formyl group or carboxyl group; B<sup>1</sup>, B<sup>2</sup>, B<sup>3</sup> and B<sup>4</sup> each independently represent a single bond, 1,2-ethylene, 1,2-ethynylene, 1,2-ethynylene, oxymethylene, methylenedioxy, carbonyloxy, oxycarbonyl or 1,4-butylene group, provided that when Z is a group represented by the partial structural formula (III), then B<sup>4</sup> is neither oxymethylene nor oxycarbonyl group, and that when Z is a group represented by the partial structural formula (IV), then B<sup>3</sup> is neither methylcarboxy nor carbonyloxy group; R<sup>1</sup> and R<sup>2</sup> each independently represent an alkyl group or a fluoroalkyl group substituted with at least one fluorine atom having 1 to 10 carbon atoms in which alkyl group or fluoroalkyl group one or not adjacent two or more methylene groups may be replaced by an oxygen atom, a sulfur atom or —CH=CH—,

The reference compounds (1-1) to (1-72), wherein Y = CF<sub>2</sub>H, X = F and with linking group -CH<sub>2</sub>O- anticipate the claimed compounds, particularly, compound 202 in example 5. The compound 202 below reads on the claimed compound wherein j=k= 1, m=n=p=q=0 and Z<sup>11</sup>= -CH<sub>2</sub>O-.



**It is noted that Applicants interpret the compound of 202 as m=1 instead m=0. If compound 202 is represented as m=0, j=k=1, Z<sup>11</sup>= -CH<sub>2</sub>O- then the compound of 202 reads on the present claimed formula (1). Also, see compounds of formulae (1-**

2)-(1-3), (1-6), (1-14), (1-16)-(17), (1-19), (1-21) and (1-62), which the compounds are not represented by each of j and k being 0.

With respect to claims 37-44, the reference discloses that the additional compounds represented by formulae (2)-(12) are useful for the liquid crystal composition. See the compositions 3-4, 7, 14 and 17. Therefore, the reference anticipates the claimed invention. If not anticipated, it would have been obvious to those skilled in the art to utilize the reference teaching by optimize the disclosed compounds to arrive at the claimed compound and used in liquid crystal composition and device thereof.

#### *Response to Arguments*

4. Applicant's arguments filed 1/4/10 have been fully considered but they are not persuasive. See paragraph 3 above, particularly, the sentence underlined. Therefore, the rejections in the previous Office action are still maintained. The newly amended claim 1 does not have a proviso to exclude compound 202. If compound 202 is represented as  $m=0$ ,  $j=k=1$ ,  $Z^{11} = -CH_2O$  then the compound of 202 reads on the present claimed formula (1). However, the amended claims overcome the rejection over DE '348. Also, the terminal disclaimer filed on 1/4/10 overcomes the obviousness-type double patenting rejection applied in the previous Office action.
5. Claim 11 is objected to under 37 CFR 1.75 as being a duplicate of claim 10.

#### *Allowable Subject Matter*

6. Claims 3-10, 12-22, 24, 27 and 30-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 10:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kelly Cynthia can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shean C Wu/  
Primary Examiner, Art Unit 1795